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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09-269,501	03/29/1999	YUICHI AKIBA	990345	1114

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EXAMINER

RUDE, TIMOTHY L

ART UNIT PAPER NUMBER

2871

DATE MAILED: 02/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/269,501

Applicant(s)

AKIBA, YUICHI

Examiner

Timothy L Rude

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1 ☐ Certified copies of the priority documents have been received.
- 2 ☐ Certified copies of the priority documents have been received in Application No. _____.
- 3 ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5,8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Amendment

1. The amendment filed on 07 Jan 02 has been received and entered in the case.

Terminal Disclaimer

2. The terminal disclaimer filed on 07 Jan 02 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of USPAT 6,292,439 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 5 – 7, and 9 – 22, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk et al, USPAT 6124971 (Ouderkirk) and further in view of

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Liquid Crystals, Applications and Uses, Volume 1, by Birendra Bahadur et al (Bahadur) 1990, (Chapters 7 and 10, especially pages 180, 242, 245, and 270).

As to Claims 1 and 2, Ouderkirk discloses in claims 1, 2 and 8, (columns 16 and 17) all of the elements of claims 1 and 2, except the color filter disposed on the visible side of the absorption-type polarizing film, or between the absorption-type polarizing film and the reflection-type polarizing film and the reflection-type polarizing film for transmitting light linearly polarized in a direction parallel with a transmission axis thereof. Reflection-type polarizing films for transmitting light linearly polarized in a direction parallel with a transmission axis thereof are well known in the art of liquid crystals (see Bahadur, pages 462, 463, and 472). Therefore it would have been obvious to one having ordinary skill in the art of liquid crystals to select a MacNeille prism reflection-type polarizer that transmits linearly polarized light in a direction parallel with a transmission axis thereof. Bahadur teaches the use of color filters on pages 180, 242, 245, and 270. Accordingly as evidenced by Bahadur, ordinary workers in the art would recognize the benefit of color filters between the polarizing films. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display of Ouderkirk with the color filter of Bahadur to achieve color effects in any of a number of ways.

As to Claim 5, Ouderkirk discloses a backlight in claim 19.

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As to Claim 6, Ouderkirk discloses a translucent film (absorbing element) in claim 26.

As to Claim 7, Ouderkirk discloses an absorption-type polarizing film in claim 30.

As to Claim 9, Ouderkirk discloses a translucent film (absorbing element) in claim 26.

As to Claim 10, Ouderkirk discloses an absorption-type polarizing film in claim 30.

As to Claim 11, Ouderkirk discloses alternate polarizer alignments in claims 20, 21, and 22.

As to Claim 12, Ouderkirk discloses alternate polarizer alignments in claims 20, 21, and 22.

As to Claims 13 – 16 and 20 – 22, Bahadur (Chapters 7 and 10, especially pages 180, 242, 245, and 270) discloses the longstanding and conventional use of planar arrays of red, green, and blue color filters as well as the use of cyan, magenta, and yellow color filters arranged in a given order repeatedly and regularly anywhere in the beam path.

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As to Claim 17, Ouderkirk discloses the use of a dichroic polarizer positioned between the absorption-type polarizing film and the reflection-type polarizing film in claim 31, also column 5, lines 32 – 67 and column 6, lines 1 - 56.

As to Claim 18, Ouderkirk discloses the use of multi-layered dielectric coatings capable of reflecting a light component of incoming light, and having a specified wavelength, while transmitting light components of the incoming light at other wavelengths in column 5, lines 3 – 31.

4. Claims 3, 4, 8, and 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouderkirk in view of Bahadur as applied to claims 1, 2, 5 – 7, and 9 – 22, above, and further in view of Hisatake et al, USPAT 5731858 (Hisatake).

As to Claims 3, 4, and 8, Ouderkirk discloses in claim 8 the use of a light absorption film disposed on the reflection-type polarizing film, opposite from the visible side thereof, but Ouderkirk does not disclose the use of a light scattering film on the visible side of the absorption-type polarizing film. Hisatake discloses the use of a light scattering film on the visible side of the absorption-type polarizing film, (Figure 26, column 33, lines 40 – 49). Hisatake is evidence that ordinary workers in the art would recognize the benefit of a light scattering film on the visible side of the absorption-type polarizing film. Therefore, it would have been obvious to one having ordinary skill in the

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art at the time the invention was made to modify the liquid crystal display of Ouderkirk with the light scattering film of Hisatake to improve viewing angle.

As to Claim 19, Ouderkirk does not disclose liquid crystal type. Hisatake discloses the use of a twisted nematic liquid crystal in claim 19, also column 7, lines 48 – 50. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display of Ouderkirk with the twisted nematic liquid crystal of Hisatake to achieve good contrast ratio.

Applicant's Argument

5. Applicant's arguments filed on 07 Jan 02 have been fully considered, but they are not persuasive.

Applicant's first argument is that Ouderkirk does not disclose the use of color filters and that Bahadur only discloses the use of color filters in a "general" liquid crystal device in which only absorption-type polarizing films are used. Further, Applicant argues Ouderkirk does not disclose all recitations other than the color filter.

Bahadur teaches the use of MacNeille prism reflective polarizers on pages 462, 463, and 472. It is well known in the art that a metallic appearance is obtained when a reflective polarizer is used, e.g., Ouderkirk. It is an expected result to observe coloration of that metallic appearance when a color filter is disposed between the viewer and said reflective polarizer.

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Ouderkirk discloses all of the structural components as indicated in a prior office action. The recitation "for transmitting light linearly polarized in a direction parallel with a transmission axis thereof, and absorbing light linearly polarized in a direction orthogonal to the transmission axis thereof;" is inherent to an absorption-type polarizer. The recitation "for transmitting light linearly polarized in a direction parallel with a transmission axis thereof, and reflecting light linearly polarized in a direction orthogonal to the transmission axis thereof;" is inherent to a MacNeille reflection-type polarizer.

In response to Applicant's request for an indication of where the structure may be found, see Ouderkirk, Figure 11 and col. 15, lines 6-24. Electrodes and a liquid crystal layer are inherent to the most common types of LCD light modulator, 11 in Figure 11.

Regarding obviousness, Bahadur clearly teaches the reason, suggestion, or motivation for adding a color filter layer is to effect a color display, see page 174, second para.

Regarding expectation of success, one of ordinary skill in the art would naturally expect a color filter disposed over a surface with metallic reflective properties to provide coloration of said metallic reflective properties, thereby resulting in the metallic color(s) of the claimed invention.

Regarding teaching or suggestion to make the claimed combination, Bahadur teaches the use of MacNeille prism reflective polarizers and he teaches the use of color filters broadly. One of ordinary skill in the art may use color filters in many different ways to achieve many different color effects as a matter of designer preference, as opposed to novel invention. Knowledge of coloration of the metallic luster achieved by

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disposing a color over a reflector is well known in several art areas, e.g., reflectors and metallic paint.

Regarding a *prima facie* case, no new grounds for rejection other than those necessitated by amendment are herein applied. Therefore, applicant has not been denied an opportunity to respond.

Conclusion

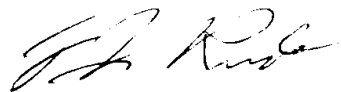
6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy L Rude whose telephone number is (703) 305-0418. The examiner can normally be reached on Monday through Thursday.

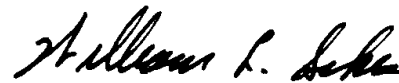
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William L Sikes can be reached on (703) 308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.



Timothy L Rude
Examiner
Art Unit 2871

TLR
January 28, 2002



William L. Sikes
Supervisory Patent Examiner
Technology Center 2800